## ATLANTIC TESTING LABORATORIES, LIMITED

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Sustaining Member—N.Y.S. Society of Professional Engineers

Box 29 Canton, N.Y. 13617 (315) 386-4578

> Box 356 Cicero, N.Y. 13039 (315) 699-5281

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U. S. Army Corps of Engineers New England Division 424 Trapelo Road

April 11, 1986

Waltham, MA

Attn: Chief, Engineering Division, NEDED

02254-9149

Re: Subsurface Investigation

Fort Fairfield, ME

Contract DACW-33-85-D-0011 Delivery Order No. 0009 ATL File No. CD013-1-3-86

#### Gentlemen:

In accordance with Delivery Order No. 0009, dated 5 March 1986, attached is one final copy of our Engineering Report for the subsurface investigation performed at Fort Fairfield, ME.

By copy of this letter, we are also transmitting two copies of this report to the Chief of the Geotechnical Engineering Branch.

If you have any questions or comments, please do not hesitate to call.

Respect fully submitted,

Spencer F. Thew, P.E./L.S.

President

SFT/TAB/smf

encs.

cc: Chief, Geotechnical Engineering Branch, NEDED-GF (2)

## SUBSURFACE INVESTIGATION FORT FAIRFIELD, ME

CONTRACT DACW-33-85-D-0011 CONTRACTING OFFICER: Edward D. Hammond, LTC, CE 28 June 1985

DELIVERY ORDER NO. 0009 5 MARCH 1986

PREPARED FOR: U.S. Army Corps of Engineers

New England Division 424 Trapelo Road

Waltham, MA 02254-9149

PREPARED BY: Theresa A. Beddoe

Atlantic Testing Laboratories, Limited

P. O. Box 29

Canton, NY 13617

March 18, 1986

ATL Report No. CD013-1-3-86

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## SCOPE OF INVESTIGATION

a. Delivery Order No. 0009

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## **CONTINUATION SHEET**

REF NO OF DOC. BEING CONT'D. Delivery Order 0009 to 2 Contract No. DACW33-85-D-0011

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TEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
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		1	JOB	60% of 1.2	\$2,016.00
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6.3	Mileage from/to contractor's main equipment storage site	660	MI	1.15	759.00
6.5	Standby time/on site moves	24	HR	75 <b>.0</b> 0	1,800.00
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_3.2	31 - 50 Ft. depth	2	EA	16.00	32.00
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#### ATTACHMENT NO. 1

## GEB REQUISITION NO. 86-28, DELIVERY ORDER NO. 0009

#### CONTRACT NO. DACW 33-85-D-0011

#### INSPECTION AND EXPLORATION INSTRUCTIONS

PROJECT: Fort Fairfield Local Protection Project

SITE: Fort Fairfield, Maine

AUTHORITY: The Fort Fairfield Local Protection Project is funded under authority of Section 205 of the 1948 Flood Control Act.

PURPOSE: The subsurface investigations are to determine the foundation conditions adjacent to the Aroostook River for the proposed dike improvement project.

#### 1. SCOPE OF INVESTIGATION

- a. Locate seven (7) drive sample SPT borings by means of taping the given distances as indicated on Attachment No. 2. Elevations for the borings will be estimated based on the contours shown on Attachment 2.
- b. The seven drive sample SPT borings shall be driven to the depths as follows: A-32', B-32', C-17', D-12', E-32', F-32', and G-22'. The sampling work shall be in accordance with paragraph 13, page C-21 of the specifications. The entire sample for each SPT drive shall be saved and placed in as many jars as required. Where refusal is encountered before depth is attained in a borehole, the boring shall be continued using vertical diamond core drilling. If the material causing refusal is not penetrated within five feet of the original refusal elevation, the boring shall be terminated. Refusal is defined as 100 blows with a less than 12" penetration or bouncing refusal.
- c. A geotechnical inspector shall act as field inspector while performing the borings. The inspector shall provide telephone reports to Mr. Blair, Corps of Engineers, at 617-647-8396 at least once a day.
- d. All samples shall be delivered to the Corps of Engineers Headquarters in Waltham, Massachusetts by the field inspector. Sample delivery shall be coordinated with the Director, NED Materials and Water. Quality Laboratory at 617-647-8357/8392.

#### 2. SITE CONDITIONS

The proposed exploration program is adjacent to the Aroostook River in Fort Fairfield, Maine. The proposed explorations are on relatively flat areas, except for possibly FD-C.

#### 3. RIGHTS OF ENTRY

The rights of entry have been obtained from the Town of Fort Fairfield and the Canadian Pacific Railroad (copies attached). The contractor is

responsible for contacting the town and railroad to notify them when the work is to be done. The individuals to be contacted are:

Alphonse R. Dixon
Town Manager
Town of Fort Fairfield
P. O. Box 451
Fort Fairfield, ME 04742
(207) 472-3801

M. S. Andrews
Supt. of Canadian Pacific Railway
Canadian Pacific Railway
Box 3460
Station B
St. John, New Brunswick E 2M4x2
(506) 635-2200

The contractor is also responsible for obtaining a flagman, if one is required by the Canadian Pacific Railway.

#### 4. COORDINATION

Mr. J. Blair, Corps of Engineers, 617-647-8396, shall be contacted five days prior to start of work and at least once a day by the geotechnical inspector to report on how work is progressing and what types of materials are being encountered.

#### 5. EXPLORATION NUMBERS

The drive boring locations as shown on Attachment No. 2 and designated A-G shall be numbered FD-86-7 through FD-86-13 in order of their completion. The new numbers shall be indicated on the boring logs and shown on a plan of explorations.

#### 6. GOVERNMENT REVIEW

The Government will review the draft submittal as well as the completed work. Subsequent to such review, the Contractor shall accomplish any corrections which may be directed as the result of the Government review.

#### 7. COMPLETION SCHEDULE

Services under this delivery order shall start within 15 calender days after receipt of delivery order. Duration of the drilling effort is estimated to be seven work days. The geotechnical report shall be submitted in draft format for review (by the Government), postmarked no later than seven calendar days after completion of the field work. Government review will take approximately ten calendar days from receipt of draft report. The final geotechnical report shall be submitted postmarked no later than seven calendar days after receipt of draft report with Government comments.

#### 8. QUALITY CONTROL

You will be held responsible for the quality of the maps submitted and for all damages caused the Government as a result of your negligence in the performance of any services furnished under the contract.

Although submissions required by your contract are technically reviewed by the Government, it is emphasized that your work must be prosecuted using proper internal controls and review procedures. The letter of transmittal for each submission which you make shall include a certification that the submission has been subjected to your own review and coordination procedures to insure (a) completeness for each discipline commensurate with the level of effort required for that submission, (b) elimination of conflicts, errors and omissions, and (c) the overall professional and technical accuracy of the submission. Documents which are significantly deficient in any of these areas will be returned to you for correction and/or upgrading prior to our completing our review. Contract submission dates will not be extended if a resubmission of draft material is required for this reason.

## DEPARTMENT OF THE ARMY

#### TELEMENT-OF-ENTRY FOR SURVEY AND EXPLORATION

( ;	ra irf	ield	Local	Protection	Project
T -	I & ALL	1610			

Boring FD-A, D, E, F & G

(Project, Installation of Activity)

(Tract Number or Other Property Identification)

The undersigned, hereinafter called the "Owner", hereby grants to the UNITED STATES OF AMERICA, hereinafter called the "Government", a permit or right-of-entry upon the following terms and conditions

- 1. The Owner hereby grants to the Government an irrevocable right to enter upon the lands hereinafter described at any time within a period of six (6) months from the date of this instrument, in order, to survey, make test borings, and carry out such other exploratory work as may be necessary to complete the investigation being made of said lands by the Government.
- 2. The permit includes the right of ingress and egress on other lands of the Owner not described below, provided such ingress and egress is necessary and not otherwise conveniently available to the Government.
- 3. All tools, equipment, and other property taken upon or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this permit or right-of-entry.
- 4. The Government agrees to be responsible for damages arising from the activity of the Government, its officers, employees, or representatives on said land, in the exercise of rights under this permit or right-of-entry, either by repairing such damage or at the option of the Government by making an appropriate settlement with the Owner in lieu thereof.
- 5. If aircraft flights over said lands, or entry upon the land by means of helicopter or other type aircraft, are necessary, the Government shall inform the Owner, in advance, of each such flight or entry.
- 6. The land affected by this permit or right-of-entry is located in the State of Maine County of Aroostook and is described as follows: As depicted on the Army Corps of Engineers map entitled "Ft. Fairfield Local Protection Exploration Plan."

WITNESS MY HAND AND SEAL this

27 day of

1930

For the Canadian Pacific Railway

(SEAL)

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UNITED STATES OF AMERICA

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### AMENDMENT TO RIGHT-OF-ENTRY

"Railway requires 48 hours' notice prior to commencement of any work to arrange flagging protection, if required and at no time should any equipment be placed closer than 10 feet to the nearest rail of any track."

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- The Owner hereby grants to the Government an irrevocable right to enter upon the lands beignsfier described at any time within a period of six (6) months from the date of this instrument, in order to survey, make test borings, and carry out such other explository work is may be necessary to complete the investigation being made of said kinds by the Government.
- 2 The permit includes the right of ingress and egress on other lands of the Owner not described below, provided such ingress and egress is necessary and not otherwise conveniently
- 3. All tools, equipment, and other property taken upon or placed upon the land by the Government shall reviain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this permit or right-of-entry.
- 4. The Government agrees to be responsible for damages arising from the activity of the Government, its officers, employees, or representatives on said land, in the exercise of rights under this permit or right-of-entry, either by repairing such damage or at the option of the Government by making an appropriate settlement with the Owner in lieu thereof.
- 5. If aircraft flights over said lands, or entry upon the land by means of helicopter or other type aircraft, are necessary, the Government shall inform the Owner, in advance, of each such flight or entry.
- 6. The land affected by this permit or right-of-entry is located in the State of Maine County of Aroostook and is described as follows: As depicted on the Army Corps of Engineers map entitled "Fort Fairfield Local Protection-Exploration Plan." Land owned by Stephen F. & Elaine E. Novak, Assessor's Map #32, Lot #78. Test boring to be done in west driveway off Main Street, as shown on Corps of Engineers, Water Resources Investigation, St. John River Basin, Aroostook
  - 7. The test results will be given to the property owner, after drilling is completed.

WITNESS MY HAND AND SEAL this	day of	. 14
•	Stephen & M	ist. 151.4L
	***************************************	(SLAL)

UNITED STATES OF AMERICA

RICHARD T. BOGACZYK

Chief, Real Estate Division

ENG PARM 1258 (ER 405-1-625) EDITION OF 1 DEC 62 IS OBSOLETE.

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:Piket Namber or Other Property Identities non)

Figure 20 September 1 of the "Owner", hereby grants to the UNITED STATES OF hereinafter called the "Government", a permit or right-of-entry upon the following terms net residitions

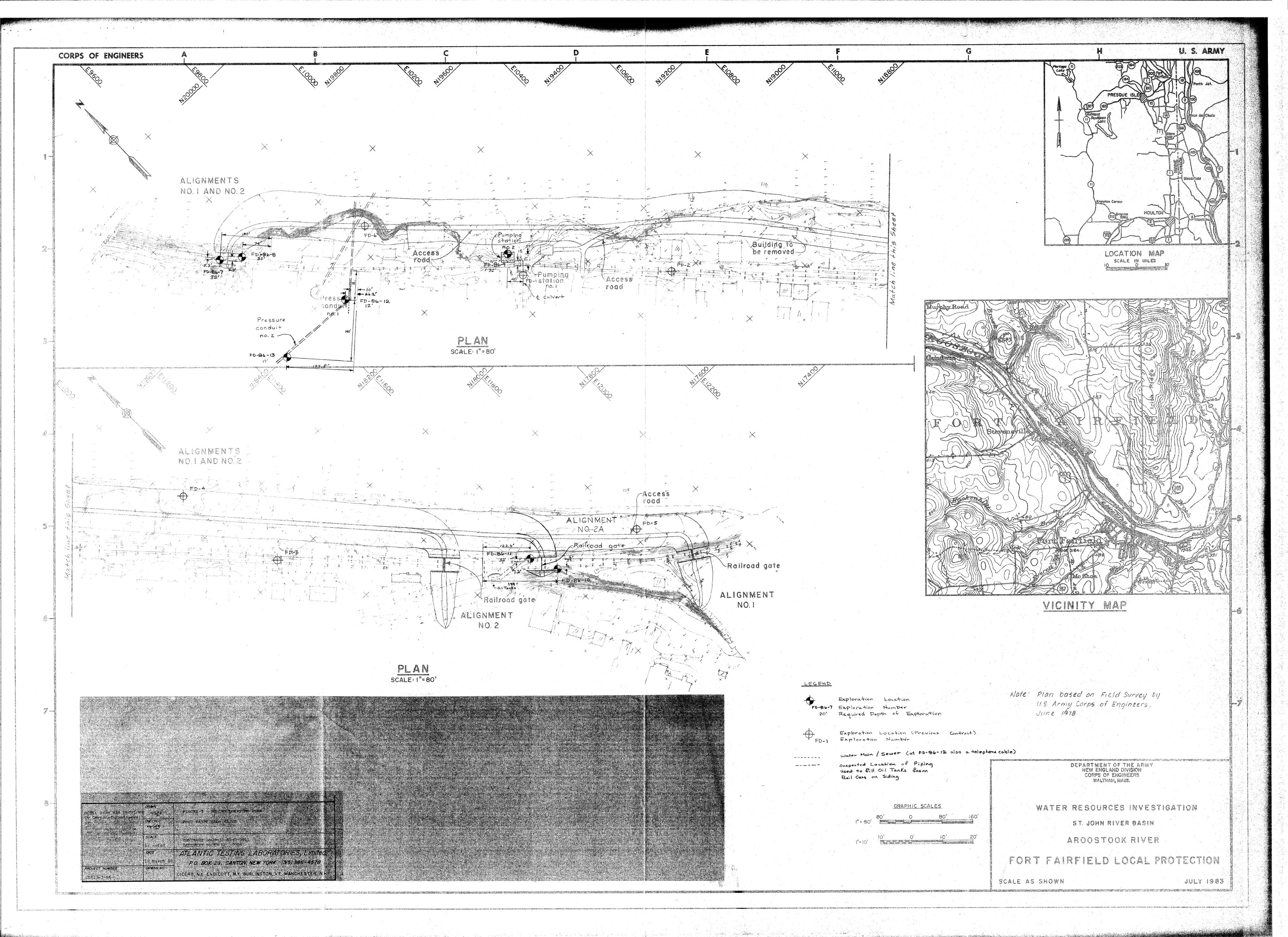
- ' The Owner hereby grants to the Government an irrevocable right to enter upon the lands Grematter described at any time within a period of six 1 6 ) months from the Arte of this instrument, in order to survey, make test borings, and carry out such other exploratory nurk as may be necessary to complete the investigation being made of said lands by the Government
- The permit includes the right of ingress and egress on other lands of the Owner not described below, provided such ingress and egress is necessary and not otherwise conveniently available to the Government.
- All tools, equipment, and other property taken upon or placed upon the land by the Government shall revain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this permit or right-of-entry
- 4. The Government agrees to be responsible for damages arising from the activity of the Government, its officers, employees, or representatives on said land, in the exercise of rights under this permit or right-of-entry, either by repairing such damage or at the option of the Government by making an appropriate settlement with the Owner in lieu thereof.
- If aircraft flights over said lands, or entry upon the land by means of helicopter or other type aircraft, are necessary, the Government shall inform the Owner, in advance, of each such flight or entry.
- 6. The land affected by this permit or right-of-entry is located in the State of Maine . , and is described as follows: As depocted on the County of Aroostook Army Corps of Engineers map entitled "Fort Fairfield Local Protection -Exploration Plan." Land woned by Gilbert Peterson, Family Trust. Assessor's Map#32, Lot #46. Test boring to be done as shown on Corps of Engineers, Water Resources Investigation, St. John River Basin, Aroostook River, July 1983.

WITNESS MY HAND AND SEAL this \*

UNITED STATES OF AMERICA

RICHARD T. BOGACZYK Chief, Real Estate Division

EDITION OF 1 DEC 62 IS OBSOLETE. (ER 405-1-625)



#### b. Project Site

The site is located adjacent to the Aroostook River along the Canadian Pacific Rail line in Fort Fairfield, ME.

#### c. Purpose

The subsurface investigations were to determine the foundation conditions adjacent to the Aroostook River for the proposed dike improvement project.

#### d. Authority

The Fort Fairfield Local Protection Project is funded under authority of Section 205 of the 1948 Flood Control act.

#### e. Scope of Investigation

Inspection and exploration instructions, which were provided by the Army Corps of Engineers, New England Division, are included in Section 3a. The subsurface investigation program employed drive sample borings with standard penetration tests.

Work under this delivery order consisted of locating seven (7) drive sample - SPT borings by means of taping the given distances as indicated on Attachment No. 2 of the delivery order (Section 3a). Elevations for the borings were roughly estimated from the contours shown on Attachment 2.

The drive sample - SPT borings were performed in accordance with paragraph 13, page C-21 of the specifications. Sampling intervals were 5 feet in the overburden or less where there was a significant change in the soil strata. The borings were advanced using a 3-1/4" I.D. hollow stem auger. All borings were terminated at the specified depth in overburden. The entire sample for each SPT drive was saved.

QUALITY CONTROL

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#### a. General Certification Statement

I hereby certify that the above mentioned records, equipment and procedures were used to perform the subsurface exploration described herein. I also certify that the work was performed in a professional manner and meets the requirements set forth in the delivery order. This report has been subject to my review and is both complete and technically accurate.

CERTIFIED 11 April 1986

Spencer F. Thew, P.E./L.S.

#### b. Records Taken

NED Forms 121, 58, 58a and 59 were used to record pertinent drilling and sampling operations including elevations, blow counts, etc. Section 8 contains a complete series of these logs for the seven borings along with location maps.

Summaries of daily activities and telephone logs can be found in Tables I and II of Section 5. A chain of custody log is in Section 6. The safety meeting report, NED Form 251, is located in Section 7.

#### c. Equipment Used

All equipment and supplies were provided by Atlantic Testing Laboratories, Limited. A listing of pertinent equipment follows:

- truck-mounted CME 55 drill rig
- 140 pound drive hammer used to advance the split spoon sampler
- 3-1/4" I.D. hollow stem augers
- 1-3/8" I.D. split spoon soil samplers, 2.0 ft in length
- AW-sized rods were used to advance the split spoon sampler.

#### d. Procedures

The boring locations were established by taping the distances given on Attachment No. 2 of the delivery order (Section 3a). The actual boring locations (Figure 3, Section 8c) varied from these specified locations due to site inaccessibility, difficulty in fine adjustments to the rig position due to the rails and/or the snow accumulation, or problems with utility clearance. Specific reasons for each location difference are noted on NED Form 58 under "General Remarks" for each boring in Section 8d. However, the following changes should be noted here:

- 1. FD-86-9(E) was moved from 15 ft to 37 ft from the centerline of the track due to water mains under the requested position. Town public utilities personnel requested that the boring be moved behind the pine tree on site.
- 2. FD-86-11(F) was moved 8.6 ft to the south in order to clear pipes used to empty tank cars on the siding into the oil tanks across the tracks to the north. It also should be noted that the soils at this site are strongly contaminated with spilled petroleum product.
- 3. FD-86-12(D) was moved from 20 ft to 26.2 ft from the wall of Peterson's Auto Parts due to water mains and a New England Telephone cable under the original site.
- 4. FD-86-13(C) was moved 6.5 ft to the south at the request of Mr. Novak in order to avoid crushing pine seedlings.

Elevations for the borings were roughly estimated from the contours on Attachment No. 2 of the delivery order (Section 3a).

The borings were advanced using a 3-1/4" I.D. hollow stem auger to 2.0 ft above the specified depth. The final two feet of the borings were completed by sampling.

Sampling was accomplished using a 1-3/8" I.D. split spoon sampler 2.0 ft in length. The sampler was advanced by a 140 pound hammer dropping in free fall from a height of 30 inches. Refusal was defined as 100 blows with a less than 12" penetration or bouncing refusal. The sample spoon shoes were kept reasonably sharp at all times. Dull, bent, or otherwise damaged samplers were not used.

The complete sample was saved and placed in 8 oz glass jars with hermetically sealed lids. The samples were not classified in the field due to one or more of the following reasons:

- The samples were frozen.
- The extreme cold of -10 to 10 degrees Fahrenheit threatened to freeze the samples.
- It was snowing heavily.

The samples were brought to room temperature and classified in accordance with ASTM D-2488 no more than two days after sampling.

# SUMMARY OF ACTIVITIES AND TELEPHONE LOG

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## TABLE I

#### SUMMARY OF ACTIVITIES

	Date	Activity
	24 Feb	Monday: - site inspector made arrangements to meet with Town and Railway officials 25 Feb 86.
<b>.</b> -2	25 Feb	Tuesday: on-site 12:00 - 17:30 - site inspection made with Town and Railway officials utility clearance discussed boring locations were taped and staked.
<b>.</b>	26 Feb	Wednesday: - site inspector discussed site conditions with Patrick Sullivan, Manager of the Canton Subsurface Exploration Division of Atlantic Testing Laboratories, Limited.
	6 Mar	Thursday: - geotechnical inspector mobilized to site.
	7 Mar	Friday: on-site 08:00 - 16:00 - obtain utility clearances for borings mobilize drilling equipment to site.
ف	8 Mar	Saturday: on-site 08:30 - 10:30 - site inspection with drillers secure planking necessary for on-site moves.
	10 Mar	Monday: drillers on-site 07:00 - 17:30 - complete utility clearance drill FD-86-7 (A) and FD-86-8 (B) conduct safety meeting stand by time 4 hours for on-site moves, safety meeting and final utility clearance from New England Telephone.
	ll Mar	<pre>Tuesday: drillers on-site 06:30 - 17:00 - drill FD-86-9 (E), FD86-10 (G) and FD-86-11 (F). Note serious petroleum contamination of soils and water in FD-86-11 notified Novak family of boring that will take place on their property tomorrow stand by time 3-1/2 hours for on-site moves.</pre>
.c.u	12 Mar	<pre>Wednesday: drillers on-site 06:30 - 15:30 - drill FD-86-12 (D) and FD-86-13 (C) begin sample classification stand by time 6 hours for on-site moves and backfilling holes.</pre>
	13 Mar	Thursday: - complete sample classification travel to Portland, ME.

Activity Date 14 Mar Friday: at NED complex 10:15 - 11:00 - travel to Waltham, MA. - drop off samples with logs to Joseph Colucci of the Materials Lab. - visit Jim Blair, Terry Wong, John Hart.

## TABLE II

## TELEPHONE LOG

Date	Conversation
10 Mar	<ul> <li>Monday: 08:05 and 08:30, Jim Blair</li> <li>continuous sampling? No - on 5 ft centers with final sample giving extra 2 ft of boring depth.</li> <li>depth of Boring FD-A? 32 ft.</li> <li>need jar labels. He will mail them to Sharon Flint.</li> <li>need to move FD-E and FD-D because of utilities - will keep him appraised of situation.</li> <li>Corps will provide mylar of plan of explorations.</li> </ul>
ll Mar	Tuesday: 08:00, Jim Blair - not in - left message re: job progress
12 Mar	Wednesday: 09:30, Paul L'Heureux - job progress - expected completion schedule - need to classify soils sometime after they are taken - will bring samples to Waltham after classification.
14 Mar	Friday: 07:15, Jim Blair - visit to Waltham - expect me in the morning  10:30 - 11:00, Jim Blair, Terry Wong, John Hart - charge an extra geotechnical day for sample classification put location of sewer lines, water mains, telephone cables on logs when the hole had to be moved because of them picked up mylar of Attachment No. 2.
	- picked up mylar of Attachment No. 2.

## CHAIN OF CUSTODY LOG





# ATLANTIC TESTING LABORATORIES, Limited

#### CHAIN OF CUSTODY LOG

TROBET.		3-85-6-0011, D.O. 760009
ITEMS:	Tubes	none
	Bottles	noue
	Jar Samples	100 Jans, 5 boxes FD-86-7+hm FD-86-1
	Core Boxes	none
	Sampling Logs	FD-86-7,8,9,10,11,12,13 (7)
Date & Time		Date & Time Transferred Comments  as sampled THE addre  14 Hard 86, 10:30 AM  Joseph Colons  14 Hard 86, 10:30 AM

#### SAFETY REPORTS

## WEEKLY SAFETY MEETING

Date held 10 Harch 86

NEDSO	Date held 10 March 86
THRU: Area Engineer, fort Fair field Area	Time 0930
TO: Safety Office, NED	
1. Weekly safety meeting was held this date for the fo	llowing personnel:
Contract No. D.O. #9 Contractor Atlanti	'c Testing Lules, Lyd
Conducted By TA Beddoe All personnel present	(Contr)
Subjects discussed (Note, delete, or add): EM 385-1-1, Section:	(Govt)
Accident Prevention Plan	
KIndividual Protective Equipment - hard hars, 9	loves
x Prevention of Falls - esp. on slopes near	HUEF
x Back Injury, Safe Lifting Techniques - lifting of	hammer.
v rine Prevention - Live extinguisher in good con	diffica.
v Sanitation, First Aid, Waste Disposal - check com	divion of rirst Hiel Rie
X Tripping Hazards - trash, hose, nails in lumber - e	sp. rails and ties '
Staging, Ladders, Concrete Forms, Safety Nets -	
Hand Tools, Portable Power Tools, Woodworking Machin	ne <del>ry -</del>
X Equipment Inspection & Maintenance (Zero Defects) -	
Hoisting Equipment -	
Y Ropes, Hooks, Chains and Slings -	•
Flectrical Grounding, Temporary Wiring, GFCI -	
Lockouts for safe clearance procedures - electrical	, pressure, moving parts -
Welding, Cutting -	
Excavations -	
x Loose Rock and Steep Slopes - by MUER	
Explosives -	
Water Safety -	
Torcic materials - hazards, MSDS, respiratory, venti	lation -
Toxic materials - hazards, MSDS, respiratory, venting and emergency phone numbers, location - Services, hospital (in town) Sufedy regarding theirs  2. Forwarded.  Exposure hours 3/2/86-3/8/86  Signature ATL /2 manhours	ed by Mbeddop Title
OF: ATL 12 manhours	Resident Engineer
7 460 (19)	
NED APP 251 Note no work Sur-Thurs.	

# WEEKLY SAFETY MEETING

FOR THE CONSTRUCTIO	N INDUSTRY
fety Meeting Outlines	Week of 19
Company Name Atlantic Testing Labs Job Name For	Fairfield HE WOIZ Date 10 Harch 84
LIFTING AND CARE	KYING
It's impossible to accomplish any job in the concarrying various tools, equipment, and materials	struction industry without lifting and , yet very few of you do it correctly.
Your back does a good job of holding you erect, comes to bending and lifting, and maybe that's w back problems.	but is sure has a lousy design when it
Improper lifting and carrying can also result in bones, and injuries from falls.	hernias, sprains, strains, fractured
You'll be lifting and carrying the rest of your your bad habits, and DO IT RIGHT FROM NOW ON!	life make an effort now to break
Rule number one THINK start every lift wit To lift, get a good footing, with feet about sho Keep your back straight, and bend at the knees. Lift with your legs while keeping your back stra NEVER twist your body while lifting. NEVER reach and lift at the same time. NEVER carry a package that blocks your vision. Make sure that the floor is clear for good footing Carry items close to your body to minimize back If the load is more than you can safely lift or	ulder width apart.  ight.  ng, and clean to avoid slipping. strain. carry GET HELP!
It's amazing how efficient and careful people can they have injured their back. Doesn't it make go to AVOID painful back problems? Remember to THIN	ood sense to lift and carry correctly
SAFETY REMINDERS WHEN LIFTING MATERIALS WITH A AND NEVER SWING THE LOAD OVER THE	CRANE, BE ALERT, HE HEADS OF OTHERS.
Special Topics For Your Project watch overhead electric	allines; when drilling on
Special Topics For Your Project watch overhead electric  piver side of tracks, be especially  mindful of footing problems due to re	wind ful of your footing; be
	11/5,
Employee Safety Recommendations	
Meeting Attended By  TA Beddoe CATU)	
Kevin Hawkins (ATL)	
Mark Hawkins (ATL)	
Clayfon Sullivan ( (Plail)	
•	

Supervisors Signature Theresa A. Beddon

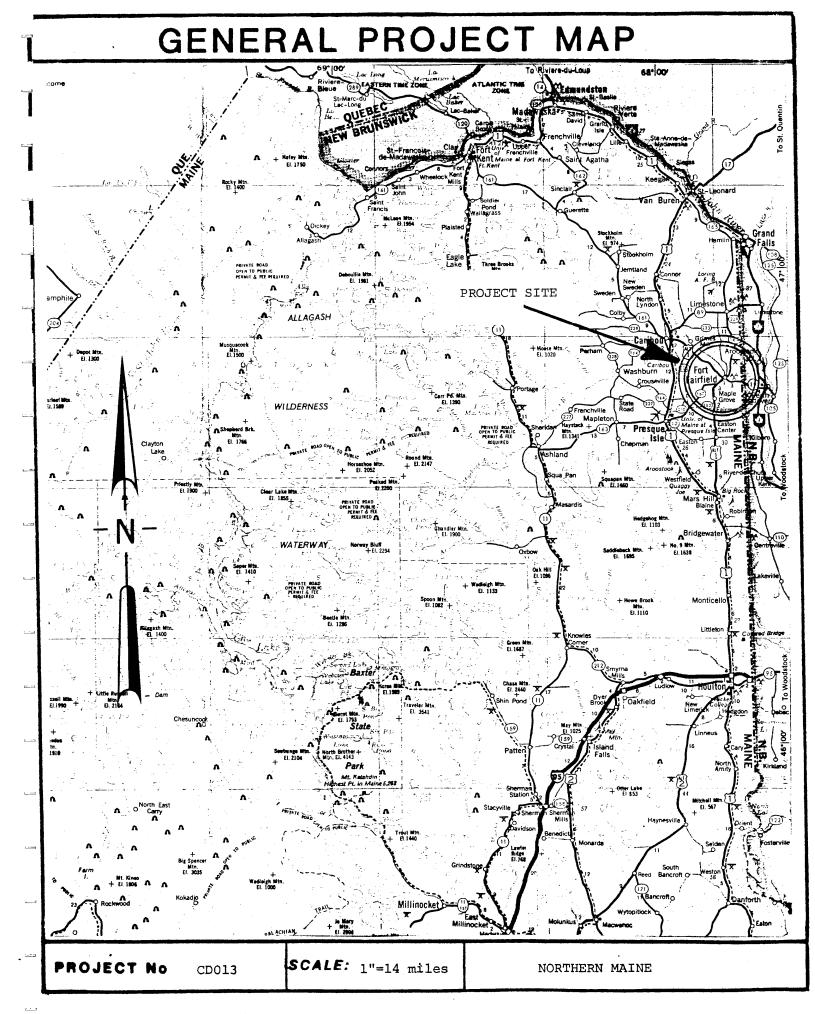
## WEEKLY SAFETY MEETING

NEDSO		Date held
THRU: Area Engineer, Fort Fair	2) eld Area	Tine .
TO: Safety. Office, NED		
1. Weekly safety meeting was held	i this date for the fol	llowing personnel:
Contract No. D.O. #9		Teoling Labor Ltd
Conducted By	All personnel present	(Contr)
Subjects discussed (Note, delete, EM 385-1-1, Section:	or add):	(Govt)
Accident Prevention Plan		
Individual Protective Equipmen	t -	
Prevention of Falls -		
Back Injury, Safe Lifting Tech	niques -	
Fire Prevention -		
Sanitation, First Aid, Waste I	Misposal -	
Tripping Hazards - trash, hose	e, nails in lumber -	·
Staging, Ladders, Concrete For	ms, Safety Nets -	
Hand Tools, Portable Power Too	ols, Woodworking Machin	ery -
Equipment Inspection & Mainter	nance (Zero Defects) -	
Hoisting Equipment -		
Ropes, Hooks, Chains and Slin		
Flectrical Grounding, Tempora	ry Wiring, GFCI -	
Lockouts for safe clearance p	rocedures - electrical	, pressure, moving parts
Welding, Cutting -		
Excavations -		
Loose Rock and Steep Slopes -		•
Explosives -		
Water Safety - Toxic materials - hazards, MS	ens respiratory, venti	lation -
Other - Exposure hours	3/9/86-3/15/86	d by Y13 Title
2. Forwarded. CPRail 12		
76.58	Signat	ne theresa A. Beddoe  Resident Engineer  Wisday - 3/15/86 Saturda  for 5 soil classification  186 Wednesday - 3/13/86 Th
Note: No work	day 3/13/86 th	ursday - 3/15/86 Saturda
NEO, pfl fi 251	mehnical inspect	for's soil classification
10,25 h	10 ULS on 3/12	186 wednesday - 3/13/86 th

BORING LOGS

L=

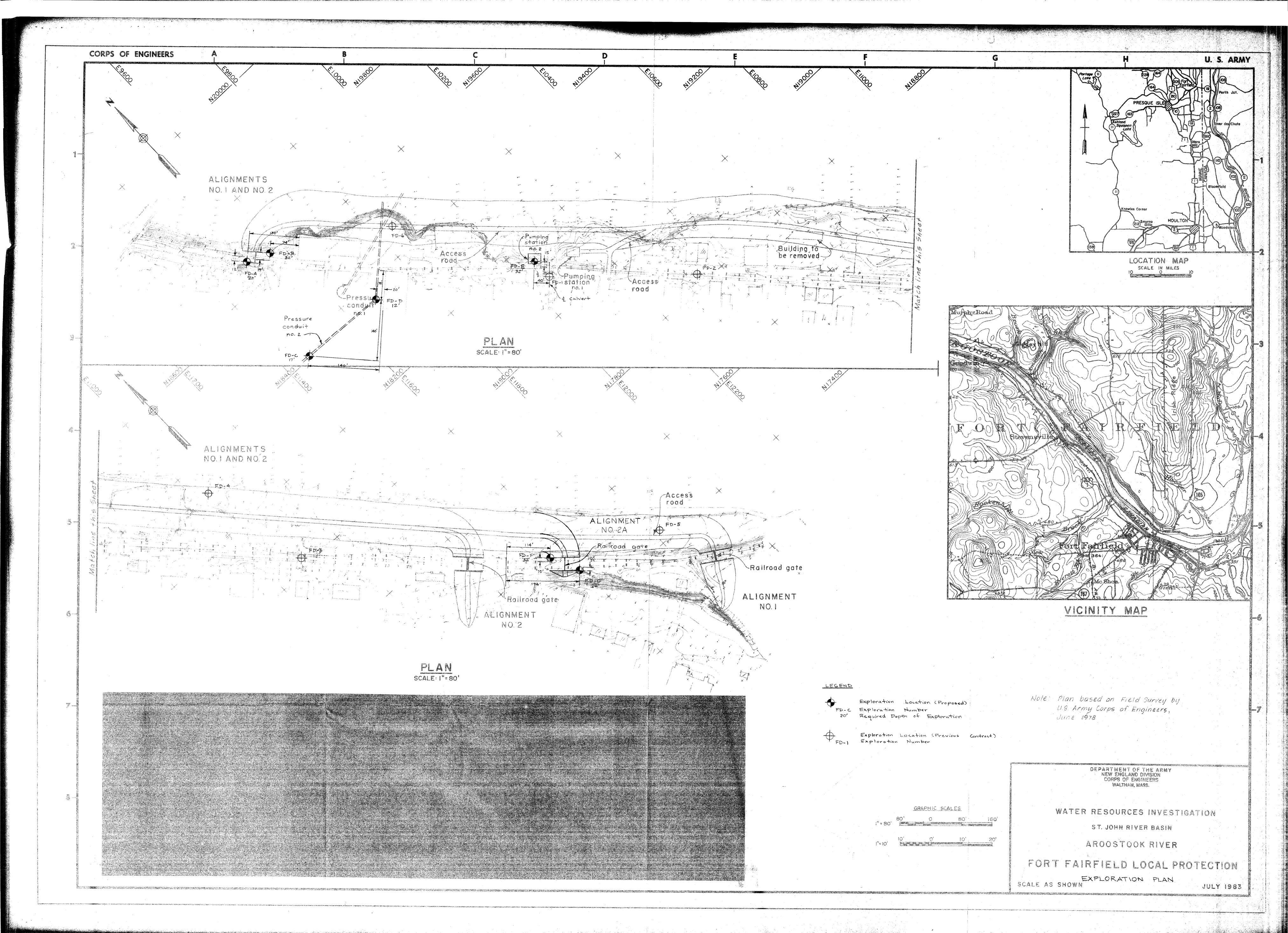
a. Figure 1 - General Project Map



b. Figure 2 - Site Location Map



c. Figure 3 - Boring Location Plan



Site Fort Fair Field, ME. PROJECT NO. FO-86- Hole No. 12 Diam. (Casing) 314" Hollow Stem Aug	O. D.O. #9 Page I of <u>4</u> Pages  & Boring Started 12 March 86
Co-ordinates: N see bon Rejocation sketch  Drilled by Mark + Kevin Hawkins	Boring Completed 12 March 86  Report Submitted 18 March 86
Purpose of Exploration <u>defermine</u> foundation improvement projection	ion conditions for dike
Elevation Top of Hole 368 * M.S.L.  Total Overburden Drilled 12 Feet  Elevation Top of Rock	Casing Left in PlaceFeet
Elevation Bottom of Hole 356 × M.S.L.  Total Rock Drilled Feet  Total Depth of Hole 12 Feet  Core Recovered Ft.; Diam. In.  Soil Samples In. Diam. 3 No.  Soil Samples In. Diam. Ho.	Elevations provided by reviewer of draft report.  Water Table Dooth dry
Depth Method of Drilling From To and Type of Bit Used  O 10 314" I.D. Hollow Stem Auget  10 13 1518" I.D. SPT Sampler	Boring Location Sketch Back of Page 4  Overburden Record Page 4  Rock Drilling Page Page Page Page Page Page
Prepared by TA BENDOR Field Data  Prepared by Atlantic Testino La	he Itd.

#### GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF HOLE	DEPTH TO WATER	ELEVATION WATER	REMARKS
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	-					
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······						
	1			445	105 000000	ATER ELEVATION

Note: Depths are in feet below original ground

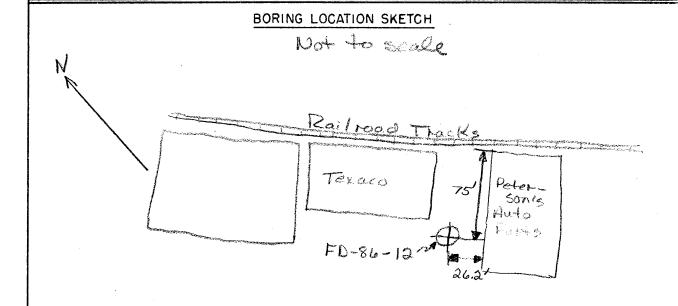
BORING LOCATION SKETCH

-												
Ī	• • •	S. ARMY		Site Fort Fairfield, ME	Poge 2 of 4 Poges							
١		F ENGIN		FD-86-	0: (Codes) 3/4"							
	NEW ENGL	AND DIV	ISION	Boring No. 12 Desig. D	Diam. (Casing)							
	FIELD LOG	OF TES	ST BORIN	G Co-ordinates: N see Boring	Location Sketch							
	Elevation Top o	Elevation Top of Boring 368* M.S.L. Hammer Wt. 140# Earing Started 12 Mar 86  Total Overburden Drilled 12 Feet Hammer Drop 30"  Boring Completed 12 Mar 86										
	Total Overburde	n Drilled	!	2 Feet Hammer Drop 30"	Boring Completed 12 Har 86							
	Elevation Top o	f Rock		M.S.L. Casing Left	- 1							
	Total Rock Dril	iled		Feet Subscribes Water D	ote Poge 4							
	Flavotion Bottom of Borino 356 KSL. Obs. Well no											
ļ	Total Depth of Boring 12 Feet Drilled By Mark + Kevin Hawkins											
	Core Recovered											
	Core Recovered	F	rt : D									
	Soil Samples				TA Beddop							
	Soil Samples _		in. D	am. No. Classification By:								
	DEPTH C	ORE/SAM	PLE BLOWS	W SAMPLING AND CORING		İ						
	1 1 1	O. SIZE	H CORE	OPERATIONS	CLASSIFICATION OF MATERIALS							
	0'			3/4" I.D. Hollow Stem	3" asohalt	L						
	0.25'		100% Bounce	Λ	Brown comf SAND and	E						
	0.75' = 5-	-1 178/	Gounce	Sampling hull 18 till	SILT, some fine GRAVEL,	F						
				by 21 long split special	i i	E						
				soil samplet bouncing	(wet, nonplastic) dense sw	F						
				refusal		<u> </u>						
				Augering difficult	Boulders	F						
•				from 2 - 7		F						
	-			of boulders		F						
	1 1 7					F						
-				CAMBIOLISM CONTROL OF THE CONTROL OF	change at 4.0'	上						
	4.5'				Brown SILT, little f. SAND,	F						
	14.3				Blown 2151, time 1. 2400	F						
	-		12		(motist, nonplastic) loose	F						
		-2 13/8	802		ML	F						
	7		10/	·	712	F						
	4.5		/	Po-		F						
	9,3			Augening easy for Augening		F						
				remainder of boring.		F						
						F						
						F						
						F						
	1 1 7				× 4	F						
	1 1 - 7					F						
	1 1 7			_		F						
	10.0'			end of augering								
	GENERAL R	EMARKS	S:	, , ,								
	* Elevation	ns prov	i webit	ny reviewer of dealt								
	report.	η Λ.	ا ملك سا	and now and New								
	Enclare	d Teler	shone C	able under original								
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Site							Boring No.				Page 3	:
.	For	+ Fa	irt	iele	I, H	E.	FO-	86-12			01 4	1
	EPTH				SLOWS.	I Total		<del></del>				-
10.0	1	MQ.	SIZE	PARQE	CORE	OPE	NG AND CORIN		CLASSIFICA			
				REC		31/4" I.D.	Hollow ster oy 13/8" I.C split spoon s	n Auger	Brown m	& SANI	and SILT,	1
	=		13/	65°2	3/10	21 long	split spoon s	oil .	little ce o	BRAVEL	Cmoist,	E
		5-3	1%	65%	4	sampler			non plastic	) loose	SP	E
12.0'					4/13	-	•					F
18.0	-			£3		Bottomo	of hole at	12.0'				
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DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
JaMar	0900	10,0	12.0	dry		hole completed in
		· · · · · · · · · · · · · · · · · · ·		J		two hours, filled in
						upon completion as
						water not expected
						due to elevation of
			•			water table along
					·	the tracks and
·						difference in cleva-
						tion between boring
						and tracks.
		·				
					·	

Note: Depths are in feet below original ground



Total Overburden Drilled /7 Feet  Elevation Top of Rock	PROJECT Note Fort Fair Field, ME.  Hole No. 13 Diem. (Casing) 3/4 Holow Stern Aug  Co-ordinates: Nee boring Incotion sketch  Drilled by Hark + Kevin Hawkins	Page 1 of 4 Pages  Ser Boring Started 18 March 86  Boring Completed 18 March 86  Report Submitted 18 March 86
Total Overburden Drilled /7 Feet  Elevation Top of Rock		
Depth Method of Drilling INDEX  From To and Type of Bit Used  O 15 3'/4" J.D. Hollow Stem Auger  15 17 13/9" J.D. SPT Sampler  Overburden Record Page 4  Rock Drilling Page Page  Page Page  Page  Page	Total Overburden Drilled	* Elevations provided by teviewer of draft report.
Field Data Lab. Data	Depth Method of Drilling From To and Type of Bit Used  O 15 3'14" I.D. Hollow Stem Auger	Bround Water Back of Page 4  Boring Location Sketch Back of Page 4  Overburden Record Page 2-3  Rock Drilling Page  Page Page

r								64 5	Site Fort Fairfield, ME. Pogea of 4 Pages					
			U.S. S OF E			s			-M 24-					İ
		CORPS NEW E						Boring No	<u>/3</u> _De	sig. <u> </u>	Diam.	(Casing)_	314"	
								l						
	FIE	LD LC	G OF	TE	ST	BORIN	۷G	Co-ordina	m.s.L. Hammer Wt. 140# Boring Storted 12 Mar-86					
		tion To							Storted <u>1</u>	2 Mar 86				
1		Overbu				prop <u>30</u>	Boring	Completed_	12 Mar 86					
	Eleva	tion To	p of R	ock _		ft	-			İ				
	Total	Rock I	Drilled.			oate!	Pog	3	ĺ					
	Eleva	tion B	ofform o	of Bo	ring.	3,1	02	<u>~_</u> K.S.L.	Obs. Well	10	/ // 1.		, 	İ
	Total	Depth	of Bor	ing			<i></i>	Feet		Mark	+ KEUIY	Hawki	115	İ
												nted CI		
								In.				DOOP		
	Soil	Sample	8	13/8	3	_in. D	ia m.	4 No.	Classifica	stion By: _	TAB	eldoe		
	Soil	Sample	s			_In. D	iom.	No.	Classifica	ation By: _				
	D	EPTH	COR	E/SAN	1PLE	BLOWS PER FT.	6011	SAMPLING	AND CORIN	G	CI ACCIEII	CATION OF	MATERIALS	
		1.21	NO.	SIZE	DEPT/H RANGE	CORE		OPERA			CLASSIFIC	JATION OF	MATERIALS	
	0.0'			13/	REL	75	31/4	4" I.D. 1	Hollow St	em	Brown	SILT, sor	ne cme	-
	0,51		5-1	118	70%		1	ν					GRAVEL,	F
							Sar	mpling by	y 13/8" I.	on on			MATTER	E
								501 50	maler	_			_	F
		=					Auc	celing e	asy for	tull.	-		non plastic)	E
								depth o	of borney	Tersal	dense	due to	. frost	E
		_					5-1	due to	\$1037,		ML			E
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		=												E
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	5.0'					2	1				Simila	r Soils	, loose, ML	F
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													•	1
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		seed	iings	oct	- MI	, , , , ,		2 0-	•					

Sile					<del></del>		Boring No		
	For	t Fa	int.	ielo	I, MI	<b>5</b>	Boring No. FD -86-1	12	Page 3
	DEPTH				BLOWS PER ST			7	01 _ 7
16.0	1.91	NQ	31ZE	PA QE	COANE	1	NG AND CORING RATIONS	CLASSIFICATION OF	MATERIALS
12.0'	-	s- <b>3</b>	1%	30%	2/10/10/5	Auger Sampline 21 lor	g by 13/8" I.D. by ng split spoon soil	j	AVEL E
15.01						•# 101	enng Laugering		
17.0'		5-4	13/8	75%	3/1/3/7		` .	Brown silt, som SAND, trace cf (moist, nonplastic ML	GRAVEL E
						bottom c as ins	tructed in D.O.		

SII		·			· · · · · · · · · · · · · · · · · · ·						
		of p	air	fiel	d, M	E.	Boring No.			Page 3	- - :
-	DEPTH					·	F	D-86	~11	01 5	- ;
-	1: 21	Na	RE/SA	MPLE	PERM	6" SAMPLI	NG AND CORING	;	CI ASSISION TO		7
10.0	1		-	REL	SO DE		RATIONS		CLASSIFICATION OF	MATER IA LS	•
12.0'		5-3	13/8		1/3/4/18	sampling 2' long sample Augering	Hollowsten by 13/8" I.D split spoon easy for f of boring	soil	Grey conf SAND, GRAVEL, little silt honplastic) slightles was strong petrodor	Cmoist, y dense	
15.0°											mhundun
15.5'		5-4	13/8	40%	Bource	Bouncing 1	Zofusal		Grey emf SAND an	d cl	E
<i>20</i> .0						ewater Ta at 17	lole measure	ا ا	SRAVEL, little SILT plastic) dense swopetroleum odor, shipped petroleum owen pulled.**(seemarks).	, strong poor sheen	
28.0	5	-5 /	3/8 4	5%	3/1/2/2			+1	rtey f. SAND, litt race coarse GRAVE onplastic) loose i etroleum odor	L (wet)	
	mhinhi								•		
25.0	5	-6/1	3/3 IX	2/7/9/12	2			113 510 nc	ack mf SANO, that th two 1/2" layers o  LT at 26.0 and 27  onplastic) loose SP  rum odor	f brown 10' (wet	

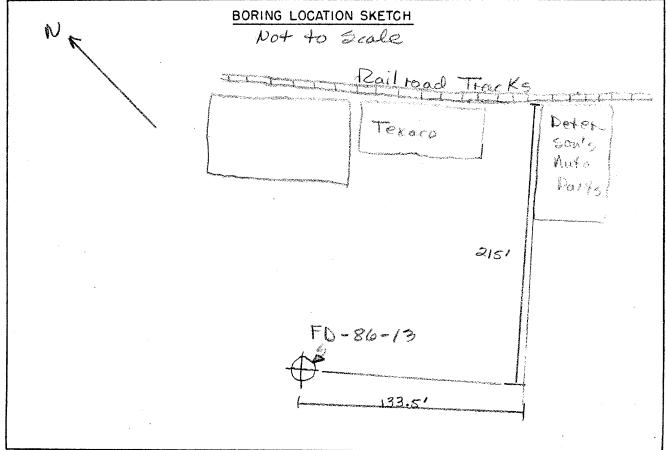
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SII		i me			a.		Boring No.		Page 4	
	FON	re	inti	eld	ME	egova En <sub>pro</sub> P	FD-84-11		01 5	ļ
	DEPTH	COF	RE/SA	MPLE	BLOWS PER FF				01	_
27.0	11:21	Na	SIZE	PARQE	COLE 18CW	OPE	NG AND CORING RATIONS	CLASSIFICATION OF MATERIALS		
				IZEC		314" I.O. Hollow Stem Auger Sempling by 13/8" I.D. by 2' long split spoon soil sampler Augeting easy for full depth of boring			·	
30.0	1					end of a	ugening			F
39.0'		S-7	13/6	70%	15/7/11/2			Grey SILT, trace of at 30.0' (wet, non; loose ML		
							e hole at 30.01 cted in b.o.			

Site Fort Fairfield, ME. PROJECT NO. D. 0. #9 Page 1 of 5 Pages  Hole No. 10 Diam. (Casing) 3/4" Hollow Stem Augriboring Started 11 March 86  Co-ordinates: N see boring location sketch Boring Completed 11 March 86  Drilled by Mark + Kevin Hawkins Report Submitted 12 March 86  Purpose of Exploration determine foundation conditions for dike improvement project  Elevation Top of Hole 360 ± M.S.L. Casing Left in Place Filevation Top of Rock M.S.L.  Elevation Top of Rock M.S.L.  Elevation Bottom of Hole 328 ± M.S.L.  Total Rock Drilled Feet # Elevations interpolated from Total Rock Drilled Feet # Elevations interpolated from Attachment 2 of 0.0.  Core Recovered Ft.; Diam. In.  Soil Samples 13/8 In. Diam. 7 No.  Soil Samples In. Diam. No. Water Table Depth 17.1		
Hole No	Site Fort Fairfield, ME. PROJECT NO	0. <u>0.0. #9</u> Page 1 of <u>5</u> Pages
Purpose of Exploration determine foundation conditions for dike  improvement project  Elevation Top of Hole 360 ± *M.S.L. Casing Left in Place Filteration Top of Rock — M.S.L.  Elevation Top of Rock — M.S.L.  Elevation Bottom of Hole 328 ± *M.S.L.  Total Rock Brilled — Feet  Total Boeth of Hole 32 Feet  Core Recovered — Feet Attachment 2 of D.O.  Core Recovered — Ft.;DismIn.  Soil Samples	Hole No Diam. (Casing) 3/4" Hollow Stem Au	igerBoring Started 11 March 86
Purpose of Exploration determine foundation conditions for dike  improvement project  Elevation Top of Hole 360 ± *M.S.L. Casing Left in Place	Co-ordinates: N seebority location skotch	Boring Completed 11 March 86
Elevation Top of Hole 360 ± *M.S.L. Casing Left in Place	Orilled by Mark + Kevin Hawkins	Report Submitted 18 March 86
Total Overburden Drilled 32 Feet  Elevation Top of Rock		4
Elevation Top of Rock	levation Top of Hole 360 ± *M.S.L.	Casing Left in PlaceFeet
	levation Top of Rock	Attachment 2 of D.O.
Depth Method of Drilling INSEX From To and Type of Bit Used	——————————————————————————————————————	INDEX
O 30 3'/4" I.O. Hollow Stem Auger         Bround Water         Beck 31 Page 5           30 32 13/8" I.D. SPT Sampler         Boring Location Sketch         Back 31 Page 5           Overburden Record         Page 2	0 30 31/4" I.O. Hollow Stom Auger	
Propared by TA Boddox Field Data  Submitted by Atlantic Testing Labs, 14d.		

Site: Fort Fairfield, ME. Page 4 of 4 SUBSURFACE WATER OBSERVATIONS Boring No: FO-86-10 DEPTH-BOT. DEPTH DEPTH-BOT. **ELEVATION** TIME DATE REMARKS OF CASING OF BORING TO WATER WATER 348.2±1 × 12.81 22.0' boting completed in 11 Mar 12:17 20.01 two hours, measured immediately after completion of hole \* Elevations interpolated from Attachment 2 of D.O. Note: Depths are in feet below original ground BORING LOCATION SKETCH Not to Scale FD-86-10 4.3 from 4 of Track Train Station House

		Fairfield FD-86-11	•	Page 5045 SUBSURFACE WATER OBSERVATIONS					
DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS			
11Mar	15:53	30,01	32.0'	17.1'	342,9±1 *	boxing completed in			
						a few hours, measured			
<del> </del>						immediately after			
· · · · · · · · · · · · · · · · · · ·						completion of hole.			
··									
		+elevation	s Interpolas	red from	Attachment	2 of 0.0.			
				<u> </u>					
				LOCATION SKE		SA			
3 The Approximate Annual State of the Approximate Annual State of the Approximate Annual	Teail	read Th	secks the secks	122		=D-86-11  57.21 from t of trace			
	ain astion		The state of the s	Oil Tank	(5)				

		Fairfield D-86-13	) ME ·	SUBSURFACE WATER OBSERVATIONS				
DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS		
a Mar	11:30	15.0'	17.0'	dry		hole completed in		
				J		two hours, filled in		
						upon completion a		
				-		water not expeded		
						due to elevation of		
						water-table along H		
				·	·	hacks and differen		
						in elevation between		
						boring and tracks.		
		<u> </u>						



	Tax Cit Existingly UE	Page alof 5 Pages							
U.S. ARMY		roge ator 5 roges							
CORPS OF ENGINEERS	Boring No. 11 Desig. F	Diam (Casina) 31/4"							
NEW ENGLAND DIVISION	Doining 140.	Didiii, (Ocomy)							
FIELD LOG OF TEST BORING	Co-ordinates: N see Boain	g Location Plan							
Elevation Top of Boring 340±		# Boring Started 11 Mar 86							
Total Overburden Drilled 32	Feet Kommer Drop 30'	Boring Completed 11 Mar 86							
Elevation Top of Rock	M.S.L. Casing Left								
Total Rock Drilled Feet   Subscribes Water Date   Page									
Elevation Bottom of Boring 328	E # MS.L. , Obs. Well 10								
Total Depth of Boring 32	Feet Drilled By Mark	+ Kevin Hawkins							
Core Recovered		ck mounted CME 55							
		TA Beddoe							
Core Recovered Ft : Diam.		•							
Soil Samples /3/8 in. Diam.		TA Beddoe							
Soil Samplesin. Diam.	No. Classification By: _								
	SAMPLING AND CORING	CLASSIFICATION OF MATERIALS							
O' NO. SIZE PAGE RECOY	OPERATIONS								
REG 31/ 34	4" I.O. Hollow Stem Auger	Black fine BRAVEL and							
5-1 13/8 85% 106 Sa	mpling by 13/8" I.D. by	cmf SAND, some SILT							
1.0'	2' long split spoon soil	(wet, nonplastic) dense due							
	samplet asy for full	to frost of FILL (bosed)							
	depth of boring								
	-1 refusal due to frost	on appearance, texture							
		and odor)							
		l ·							
		·							
5.0	:	Black cmf SAND and light							
		ا مینی ا							
	and sample from auger	GRAVEL (saturated, non-							
5-2 13/8 5% /4 5	Brab sample from auger at ~ 6.0'	ORAUE CSararacea, 100							
		proserve) (2000 mg							
7.0'		petroleum product odor							
		Auger sample - similar							
		soils ML (moist)							
		·							
10.0		1							
GENERAL REMARKS: *Elevations interpolated fr	om Attachment 2 of no								
Boring moved to avoid	nians used yes	1							
9, 8,		·							
**Contamination due to s	pills from unloading								
rail cors by the sidin	.g								

d. Boring Logs

Hole No. <u>FO-86-7</u> Diam. (Casing) 3/4" Hollow Stem Auger Co-ordinates: *  **Exect boring location **Drilled by **Mark + Kevin Hawkins	Report Submitted 18 Harch 86
Purpose of Exploration <u>determine</u> foundation improvement proj	
Elevation Top of Hole 361 ± M.S.L.  Total Overburden Drilled 32 Feet  Elevation Top of Rock	Casing Left in PlaceFeet
Total Depth of Hole 32 Feet * E	Hater Table Depth 12.3
Depth Method of Drilling From To and Type of Bit Used  O 30 3'/4" I.D. Hollow Stem Auger  30 32 13/8" I.O. SPT Sampler	Bround Water
Prepared by TA Beddoe Field Data Submitted by Atlantic Testing La	63, L+d.

	^ ^	A							
U.S. ARMY		Poge 2 of 5 Poges							
CORPS OF ENGINEERS NEW ENGLAND DIVISION	Boring No. 7 Desig. A	Diam. (Casing) 31/411							
FIELD LOG OF TEST BORING		ng & Location Plan							
Elevation Top of Boring 361±	M.S.L. Hammer Wt. 140	Boring Storted 10 Mar 86							
Total Overburden Drilled 32	Feet Hammer Drop <u>30</u>	Boring Completed 10 Mar 86							
Total Overburden Drilled 32 Feet Hammer Drop 30 11  Elevation Top of Rock M.S.L. Casing Left Boring Completed 10 Mar 86									
Total Rock Drilled	Feet   Subsurface Water	octe Por 5							
Elevation Bottom of Boring 329									
Total Depth of Boring 32		+ Kevin Hawkins							
Core Recovered		ek mounted CME55							
Core Recovered Ft : Diam.									
Soil Samples / 3/8 In. Diam.		TA Beddoe							
Soil SamplesIn. Diam.	No. Classification By: _								
DEPTH CORE/SAMPLE BLOWS	SAMPLING AND CORING								
I NO. SIZE DETH CORE	OPERATIONS	CLASSIFICATION OF MATERIALS							
D'	4" Hollow Stem	Brown cme SAND and -							
	1	GRAVEL, little SILT							
5-1 13/8 952 58 5	emolina by 178	<b>1</b>							
1 1 1 1 1 1 7 7 7 7	I.D. by 2' long	(moist, nonplastic)							
2.0'	split spoon	Note greater amount of							
	soil samplet	SILT with depth.							
	3011 Darrip	Dense Necause of							
	ugering easy for	frost, SW FILL F							
	full depth of	E							
	boring								
3		·							
5.0		Brown cmp SAND and							
		GRAVEL, trace SILT							
5-2 13/8 752 72		(dry, nonplastic) dense							
		5W							
7,0' -		l E							
		l E							
1 1 3 1 1 1 1		9.0' Note change to							
		greater amount -							
10.0		or onwe,							
GENERAL REMARKS:	Planet India								
Boring only 5.3' from 4 inaccesibility of further	dietable and due to								
probability of intercept	ling concrete wall.								
	Allochmand #2 of D.O.								

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SII		, <i>(</i> ==	, 6	2 _ / /	115	_	Boring	No.		Page 3	<u> </u>
	. Foot	Fa	11-41	ield	, ME			FD-86-	7	01 5	ì
	DEPTH	COI	RE/SA	MPLE	BLOWS	6"SAMPLI	IC AND	2001416			-
10.0	, 1.21	NQ	SIZE	<del></del>	COME		RATIONS	CORING	CLASSIFICATION OF	MATER IALS	;
	_	1		REC	12	31/4" Ho	llow 57	em Auger	Brown cmf SAN	D, some	F
	_=	5-3	13/	85%	12/13	Samplin	g by 1	7/8" I.D.	CE GRAVEL, +rac	•	F
			1 18	004	13		•	plit spoon	lance more alactic	cliabelia	E
12.0	/  =				21	soil:	sample		(dry, ron plastic)	31131119	F
12.0	<b> </b> -		<del> </del>	<del> </del>		Augerin	g eas	y for full	dense sw		<u> </u>
	=		l					boting			E
						ł .		measured			E
	$\Box$				,	at 12	<b>.</b> (2)				E
	1 =									•	F
1						·					E
15.0	/ コ										E
175.0	=								Similar Soils, we	Ł	
	1 3	•			124		•		Brown Cf GRAVE	L, little	E
		5-4	13/8	80%	37			-	comp SAND, trace		
1,					52						F
17.0	17								(saturated, non p		
	ΙΞ			l					Slightly Dense	6W	E
	E		l		1	•					
		. ]		1							F
1.	1 =										E
		l	1								E
20.0			- 1								E
20.0		$\neg +$	$\dashv$						Brown CM& SAND,	little cf	F
•			1		23				GRAVEL, Frace SI	LT /	F
		5-5	13/4	70%	01/				(saturated, nonpla	istic) /	E
		-		- 1	20				blightly dense "	sω /	E
22.0'					40				Brown CP GRAV	EL	上
	=				.				little emp SANO		E
	$\exists$								SILT (saturated,		F
	4				•				tic) slightly der	se GW	
	7								,		
	E										
1	E										_
25.0		$\dashv$	$\dashv$	<del> </del> ;	3			<u> </u>	2 O CAIR		
	#				1			1	Brown cmf SAND	. \$	
	5	-6/	3/8 4	0%	12				GRAVEL, little SIL		
	$\exists$				10			1	urated, nonplastic	) slightly	
27.0								<	dense sw		

Sile		· · · · ·			······································				
ł	out F	$\mathcal{L}$	da	IJ	esen.		Boring No.	_	Page 4
<del></del>						·	FD-84-	/	01 _5
	EPTH	COF	RE/SA	MPLE	BLOWS PER MT	4" SAMPLI	NG AND CORING		
27.01	2'	Ma	SIZE	PUNDE	RECVY		RATIONS	CLASSIFICATION OF	MATERIALS
	_			REC		314" Holl	low stem Auger		
	_					sampling	by 13/8"I.D. long split spoon		E
1						by	long split spoon		E
	-					901/50	mpler leasy for full of boring		F
						denth	of boring		E
									E
30.0						end of a	ugeling		F
	11				10/		199	Brown of GRAVE	L and conf-
					1/0			SAND, little SILT	· (satura-
		5-7	13/8	65%	33			ted, nonplastic)	slightly E
ارما	$\exists$				27			dense ow	, ' F
32.0						Rotter &	? hole at 30.0'		上
	Ξ	_					ucted in D.O.		E
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	7	1	l						E
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	$\exists$								F
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	1 10:	CD-86-7	, HE.	SUBSURF	ACE WATER	OBSERVATIONS
DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
10 Mar	1100	15,6	17,6	12.3'	348.7±′ *	
					3,0,72	50.0 (0)
						sample 5-4 tal
					,	
		· ·				
						•
	<del></del>					
	*	Elevations	Monadal	Α		
			nterpolated.	nom Attack	to 6 tman.	D.O.
te: De	pths o	re in feet be	low original g			
			iow original g	roung		
			BORING LO	CATION SKET		
1			BORING LO	CATION SKETC	CH CH	
1			BORING LO	CATION SKETC	ЭН	
		·	BORING LO	CATION SKETC	CH CH	
			BORING LO	CATION SKETC	CH CH	
			Not st	CATION SKETC	CH .	
			BORING LO	CATION SKETC	CH CHARLES AND A	
			Not the	CATION SKETC	CH CHARLEST WAS A CONTROL OF THE CON	
	3′->	JEFE STEEL	Not st	CATION SKETC	CH CONTRACTOR OF THE CONTRACTO	Solven
	3'-x	不是	130' 0-86-7	CATION SKETC	Physical State of the State of	
	3'->	Total Nation	130' 0-86-7	CATION SKETC	Physical State of the State of	ACO Symmetry Marian
	3'-x	不是	130' 0-86-7	CATION SKETC	and the same of th	
	3'->	Total Nation	130' 0-86-7	CATION SKETC	Physical State of the State of	Potos
	3'-	Total Nation	130' 0-86-7	CATION SKETC	and the same of th	Peter Sons Auto
E & Cocks	3'->	Total Nation	130' 0-86-7	CATION SKETC	and the same of th	Potos
	3'->	Total Nation	130' 0-86-7	CATION SKETC	and the same of th	Peter Sons Auto
	3'-	Total Nation	130' 0-86-7	CATION SKETC	and the same of th	Peter Sons Auto

Site Fort Fairfield, ME. PROJECT	NO. D.O. # 9 Page 1 of 5 Pages	
Hole No. FD-86-8 Diam. (Casing) 3/4" Hollow Stem Ad	uger Boring Started 10 March	86
Co-ordinates: N see boring location sketch	Boring Completed 10 March	•
Drilled by Hark + Kevin Hawkins	Report Submitted 18 March	
Purpose of Exploration <u>determine</u> found improvement project		diko
Elevation Top of Hole 361 ± *M.S.L.  Total Overburden Drilled 32 Feet  Elevation Top of Rock	Casing Left in Place	Feet
Elevation Bottom of Hole 329 ± *M.S.L.  Total Nock DrilledFeet	Elevations interpolated for Atlachment 2 of 0.0.	<b>∿om</b>
Soil SamplesIn. DiamNo.	Water Table Depth 13.8	
Depth Method of Drilling From To and Type of Bit Used  O 30 3'/4" I.D. Hollow Stem Auger	Ground Water	_ Back_of Page _5
30 32 13/8" I.O. SPT Sampler	Boring Location Sketch  Overburden Record	Beck of Page 5
	Rock Drilling	
		Page Page
	1	Page
Prepared by TA Beddoe Field Data Submitted by Atlantic Testing Land	bs, etd.	

U.S. ARMY	Sile Fort Fairfield, 1	Sile Fort Fairfield, ME. Poge 201 5 Poges									
CORPS OF ENGINEERS NEW ENGLAND DIVISION	area to an a	Boring No. 8 Desig. B Diam. (Cosing) 31/4"									
NEW ENGLAND DIVISION	Desig	Diam. (Cosing) 274									
FIELD LOG OF TEST BORIN	NG Co-ordinates: Noce Bori	ng R Location Sketch									
1	Elevation Top of Boring 361 + M.S.L. Hammer Wt. 140# Boring Started in Mar 86										
1	Total Overburden Drilled 32 Feet Hammer Drop 30"  Boring Completed 10 Mar-86										
Elevation Top of Rock		_									
Total Rock Drilled Feet   Subscribes Water Date   Page 5   Elevation Bottom of Boring 329± * M.S.L.   Obs. Well NO											
Total Depth of Boring 36		K+ Kevin Hawkins									
Core Recovered No. Box		uck mounted CHE 55									
Core Recovered Ft : Di											
Soil Samples 13/8 in. Di		TA Beddoe									
Soil SamplesIn. Di	•	· · · · · · · · · · · · · · · · · · ·									
DEPTH CORE/SAMPLE BLOWS PER EX-	"SAMPLING AND CORING	CLASSIFICATION OF MATERIALS									
NO. SIZE PANGE BECVY	OPERATIONS										
T REC 9	31/4" Hollow Stem Auger	Brown SILT, little not									
	Sampling by 13/8" I.D.	SAND, ITHE ORGANIC									
5-1 13/8 60% (4)	by 2'long split spoon	MATTER, trace of									
	soil sampler Augering easy for full										
2.01	depth of boring	GRAVEL, trace CLAY									
1   1   1	aepar o	(wet, slightly plastic) E									
=		loose MH									
		E									
		E									
		. ե									
5.0' =	:	<b>F</b>									
		Brown SILT, some GRAVEL,									
5-2 13/8 50% 5/5/		little CLAY, little me same									
5-2 13/8 508 5		trace ORGANIC MATTER									
		(wet, plastic) loose									
7.01											
		M #									
		<u> </u>									
1 1 3 1 1 1		E									
		<u> </u>									
10.0' =		F									
GENERAL REMARKS: BONING	only 6:3' from center-										
further distances due	e of inaccessibility of										
do which		·									
*Elevations interpolated	from Attachment 2 of 0.0.										

	·					نو يەھسىيەت رايان د		والمايية المعج		· · · · · · · · · · · · · · · · · · ·	
SIII		un.	0	, A	118		Boring	No.		Page 🦻	-
<u> </u>	Fort	Fair	n-Fie	'Id',	ME,			FD-84	, - B	01 5	ł
1	DEPTH	CO	RE/SA	MPL	PER ST	& "SAMPLI	NG AND	CORING	-		-
10.0	11:21	Ma	SIZI	~X	E NEOWY	1	RATION:		CLASSIFICATION OF	MATER IALS	
12.01		5-3	13/8	90%		Samplin by 21 soil =	g by long samp		trace CLAY (wet) plactic) losse 5	, slightly P	
						depth	i o E	boting, measure	trace CLAY (sot slightly plastic)		المنياء
15,0						at 13:		111600000000000000000000000000000000000			
17.0'		5-4	13/8	90%	12/14				Brown Mf SAN SILT Csaturated, loose ML inte with varued b	nonplastic) rlayered	
30.p'									brown SILT, to SAND, trace CLA urated, very sli plastic) loose	y (sat-	
22.0'	- 5	-5	3/8	100%	3/5/6/8				Dark Brown cmf little silt (sati nonplastic) loos	irated; :	
25.61	mlunlin				•				•		
27.0'	- 5	-61	3/8 10	20%	7 8 23 15				Similar Soils Brown cmf SAND a GRAVEL, some SIL	L.	

						ام وه المعمولات ه ه	and a really residual and assume making the control of the control	•	. Inches and the contract of
SII	Fort	(Table )	, P.	-11	410	· ·	Boring No.		Page 4
<u> </u>							F0-7	86-8	01 5
-	DEPTH	NO.	SIZE	MPLE	BLOWS PER RAT CORE RESSYY	1	NG AND CORING	CLASSIFICATION OF	MATERIALS
27.0			-	QEC	PERSON		low Stem Auger		
		٠			·	Sampline by 2/ soil so Augerino	q by 13/8" I.D. long split spoor ampler q easy for fu h of boring.	dense 3 w	ilightly   L
30,0					•	end of	augering		E
32.0	·	5-7	13/8	100%	15/3/3/3/37		and the second processing the second second processing and the second	Brown cm & SAND, (wet, non plastic) of SW Brown cf GRAVED SAND, little SILT plastic) dense G	olightly dense -, some conf (wet, non-
							of hole at 32.01 cted in D.O.	hio24iSi dieN≅S C	a de la constanta del constanta de la constanta de la constanta de la constanta de la constant

Boring	No:	Foir-field FD-86-8		SUBSURF	SUBSURFACE WATER OBSERVATIONS			
DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS		
10Mar	1400	15.01	17.01	13.31	347.7±/*	measured after		
10 Mar	1600	and the second	32.0°	13.8'	4.171	sample 5-4 take		
					311182	measured imme-		
		·			1	diately after		
						completion of ho		
					· ·			
			` .					
		·						
		* Elevations	2004	10				
		- · · · · · · · · · · · · · · · · · · ·						
			PETERPOLANTER	1 from Alta	chment a c	se b.o.		
te: De			i i	ł	chment a	s.E. D. O.		
te: De			elow original g	ł	chment a	së D.O.		
te: De			low original g	round		»E D. O.		
			low original g	CATION SKET		SE D. O.		
te: De			low original g	round		SE D. O.		
			low original g	CATION SKET		SE D. O.		
			low original g	CATION SKET		. D. O.		
			low original g	CATION SKET		. D. D.		
			low original g	CATION SKET		D. D.		
	epths o	are in feet be	BORING LC	CATION SKET		D. D.		
	epths o		low original g	CATION SKET		). D.		
	epths o	are in feet be	BORING LC	DCATION SKETO	CH	D. D.		
	epths o	FD-86-8-	BORING LC	CATION SKET	CH  Aug K 5			
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH  Aug K 5	Dail Road Tracks		
	epths o	FD-86-8-	BORING LC	DCATION SKETO	CH CH	2 ail Road Tracks		
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH  Aug K 5	Pail Road Tracks		
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH CH	Pail Road Tracks		
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH CH	Pail Road Tracks		
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH CH	Pail Road Tracks		
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH CH	Pail Road Tracks		
	epths o	FD-8%-8-	BORING LC	DCATION SKETO	CH CH	Pail Road Tracks		

site Fort Fairfield, HE. PROJECT NO	0. <u>0.0, #9</u> Page 1 of <u>5</u> Pages
Hole No. ED-86-9 Diam. (Casing) 314" Hollow Stem Aug	
Co-ordinates: NEEZ & boxing location	Boring Completed 11 March 8 6
Drilled by Mark + Kevin Hawkins	Report Submitted 18 March 86
Purpose of Exploration determine foundation	<b>A</b>
improvement pro	ject
Elevation Top of Hole $363 \pm 4$ M.S.L.  Total Overburden Drilled $32$ Feet	Casing Left in PlaceFeet
Elevation Top of Rock	
Total Depth of Hole 32 Feet  Core Recovered	Elevations interpolated from Attachment 2 of D.O.
Core Recovered      Ft.;DiamIn.         Soil Samples      In. DiamNo.         Soil Samples      In. DiamNo.	Water Table Depth 13.5
Depth Hethod of Drilling From To and Type of Bit Used	Bround Water Back of Page 5
0 30 31/4" I.D. Hollow Stem Auger 30 32 13/8" I.D. SPT Sampler	Boring Location Sketch Back of Page 5  Overburden Record Page 2-4
	Rock Drilling
	Page
Propared by <u>TA Beddoe</u> Field Data Submitted by <u>Atlantic Tosting Labe</u>	Lab. Data

U.S. ARMY	Site Fort	Fairfield, ME	Poge 2 of 5 Poges
CORPS OF ENGINEERS NEW ENGLAND DIVISIO		0-86- 9 Derio. <u>E</u>	Diam. (Casing) 3/4"
MEM ENGLAND DIVIDIO			· •
FIELD LOG OF TEST BO	ORING   Co-ordinate		ng & Location Plan
Elevation Top of Boring34	3± * M.S.L.	Hammer W1. 1407	Boring Storted <u>UMar86</u>
Total Overburden Drilled		Hommer Drop 30'	Boring Completed 11 Mar-86
Elevation Top of Rock	M.S.L.	Casing Left	<u> </u>
Total Rock Drilled	Feet	Subsurface Water D	Poge
Elevation Bottom of Boring	331= MS.L.	Obs. Well Mo	+ Kevin Hawkins
Total Depth of Boring	3d Feet	MIN DO DELL -A	uck mounted CHESS
Core Recovered % No		Inspected By:	
Soil Samples /3/8			TA Beddoe
Soil Samples		Classification By: _	
	OWS SAMPLING A	•	CLASSIFICATION OF MATERIALS
	SCHOOL OF ELLIPS	į	Proposition of SAND.
- IZEC 5	1) 3/4" Hollo	wstem Auger	Brown SILT, some ME SAND, little of GRAVEL, IHIE CLAY
	48 Sampling by 50 by 2' lon		trace ORGANIC MATTER
1.5		1	(grass, roots) (moist, slightly
	Dunning Pa	agu for full	
	depth o	t baring	plastic) dense because of
			frost MH FILL
	ı		
5.0	activated of PRESTRATE		Dark brown SILT, some
	4		CLAY, little fine SAND, trace
5-2 13/8 25%	3/3/		& GRAVEL, + Mace ORGANIC
	3		MATTER (roots) (moist, plastic)
7.0'	No. of Contract Security Secur		slight odor of petroleum
			product, loose, HH FILL
=			
10.8			1
GENERAL REMARKS: Bothing moved due to	water main u	inder	
	N <sub>e</sub> . •		
tequested locality televations interpolations (b.o.	160 +100 HUCK	Anche Cor	
0,0			

Sile	•	·		<del></del>	<del></del>	1	Boring No.		0	
1 -	Fort Fairfield, ME.						Boring No. FD-86-9		Poge 3	ĺ
	EPTH			MPLE	<del>,</del>	1.4 SAMPLU	<u> </u>		·	<del> </del>
10.0'	1. 3,	Na		·	CORR		NG AND CORING RATIONS	CLASSIFICATION OF MATERIALS		
12.0'		s-3	晋	5%	1-/4/2-	Sampling by 2' soil so	low stem Auger by 13/8" I.D. 'long split spoon ampler easy for full	Brown SILT and CL cmp SAND, trace of (wet, plastic) (bose	& GRAVEL	
						5-3's poo pluggii large	tof boting.  recovery due to  ng of spoon with  growel.  Table measured  5!			
15.0'		5-4	13/8	50%	14/0/11/2			Brown of BRAVE comp SAND, some S layers of Brown clay, trace fine	silt with a silt and saud	
								(wet, nonplastic) o dense 6W		
20.0'		S-5	13/8	70%	8/ 10/ 14/ 14			Brown of GRAVE cmf SAND, some Lsaturated, nonpla- slightly dense GL	slic)	
<u>as,o'</u>	milmilini				•					
27,0'		5-6	13/8	60%	9/20,			Similar Soils	ദധ ്	

Sile						1	Quina At-			
	Fort	For	int	no Int	ME		Boring No. FD-86-9		Page 4	į
	<del></del>				,	<sub>r</sub> l		01_5		
DEF	PTH	COR	E/SA	MPLE Bepta	PERET		NG AND CORING	CLASSIFICATION OF MATERIALS		
27.0'	a'	Ma	SIZE		CORE	OPE	RATIONS	SEASSIFICATION OF	MAIEN IALS	;
				PEC		Sampling 2' long Sample Augering	How Stem Auger by 13/8" I.D. by split spoon soil r easy for full of boring			
300	$\exists$					and -0	المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع المرابع			E
30.0		·-7	13/8	50%	18/2/1/2		augering	Brown SILT and C		
32.0'					**************************************	Bottom of	e hole at 30.01 ucted in b.o.	Brown SILT and C MP SAND, trace - (moist, plastic) slig MH TILL	fine GRAVEL	E

Boring	No:	Fairfie FO-86-9	KO, ME.	SUBSURFACE WATER OBSERVATIONS			
DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS	
11 Mar	0935	30.0'	32.0'	13.5'	349.5± 1 **	voring completed in 2.5 hours, measure	
				·		immediately after completion of hole	
			,			confiction of rece	
·							
			`				
		¥ =1					
ote: D			elow original		on Altach	nent a of D.O.	

BORING LOCATION SKETCH

Site Fort Fairfield, ME. PROJECT	
Hole No. FD-86- Dian. (Casing) 3/4" Hollow Stem Aug	Boring Started // March 86
Co-ordinates: N see bor Fing location sket	
Drilled by Mark + Kruin Hawkins	
Purpose of Exploration <u>determine founda</u>	
improvement pro	ject
Elevation Top of Hole $36/\pm 4$ M.S.L.	Casing Left in PlaceFee
Total Overburden DrilledFeet	
Elevation Top of Rock	
Elevation Bottom of Hole 339 ± # M.S.L.  Total Rock DrilledFeet	
Total Depth of HoleFeet	* Elevations interpolated from
Coré Recovered	Attachment 2 of D.O.
Core RecoveredFt.;Diamin.	
Soil Samples 13/8 In. Diam. 5 No.	
Soil SamplesIn. DiamNo.	Water Table Depth 12.8
Depth Method of Drilling	INDEX
From To and Type of Bit Used  0 20 314" ID Hollow Stem Auger	Ground WaterBack of Page 4
20 22 13/8" ID SPT Sampler	Boring Location SketchBeck-of-Page 4/
V	Overbunden RecordPage 2 1.3
	Rock DrillingPage
	Pa go
	729
Propaged by TA Beddoe	
Propared by TA Beddoe Field Data Submitted by Atlantic Testing Lak	Lab. Data

	Site Fort Fair Reld, ME. Poge 201 4 Poge									
U.S. ARMY	Site Fort Fairfield, M	E. Poge 201 4 Poges								
CORPS OF ENGINEERS	Boring No. 10 Desig. G	Diam (Cosing) 314"								
NEW ENGLAND DIVISION	į	<b>!</b>								
FIELD LOG OF TEST BORING		rg & Location Sketch								
Elevation Top of Boring 36/ =	* M.S.L. Hammer Wt. 140	Boring Storted 11 Mar 86								
Total Overburden Drilled 22	Total Overburden Drilled 22 Feet Hammer Drop 30"  Boring Con									
Elevation Top of Rock	11.0.0.	_ , ,								
Total Rock Drilled	Feet   Subscribes Water	octe Poge 4								
Elevation Bottom of Boring 339± * MSL. 1 Obs. Well 10										
Total Depth of Boring 22	Feet Drilled By Mark	+ Kevin Hawkins								
Core Recovered		K mounted CME 55								
Core RecoveredFt : Diam.										
		TA Beddoe								
Soil Samples /3/8 in. Diam.		· ·								
Soil SamplesIn. Diam.	No. Classification By: _									
DEPTH CORE/SAMPLE BLOWS	SAMPLING AND CORING									
NO. SIZE PARE RECLY	OPERATIONS	CLASSIFICATION OF MATERIALS								
0.0		O S S S S S S S S S S S S S S S S S S S								
PEC 25 3%	4" Hollow Stem Auger	BLACK SILT and cme SAND,								
	mpling by 13/8" I.D. by	little & GRAVEL, Trace								
5-1 13/2 1802 1/1	2' long split spoon soil	ORGANIC MATTER (wet)								
	sampler gening easy for full	nonplastic) dense due to E								
2.01 = 72	depth of boning									
2,0	weprive J	frost, ML FILL								
		F								
		F								
1 1 7 1 1 1		F								
		l E								
50'										
310 - 9		Brown me SAND, little ce-								
1 1 16		GRAVEL, Hace SILT (moist)								
5-2 13/8 80% 14										
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		nonplastic) slightly dense								
	•	5P								
7.01		l F								
		1								
10,0'		<u> </u>								
25.14.546										
VEIQUATIONS INTEL-POLATED +	from Attachment 2 of									
0.0.	ficulty of line -									
D.O. Boring moved due to different to rig po	osition because of									
rails and snow.										

Sile		·			· · · · · ·		Baring No.		Page 5	:	
F	Fort.	Fair	Bel	d, r	UE.		FD-86-10		01 4		
	DEPTH	<del></del>	E/SA			1	NG AND CORING	CLASSIFICATION OF	CLASSIFICATION OF MATERIALS		
10.01	1.21	MQ	SIZE		COL		RATIONS			-	
1a.0'		<b>5-3</b>	13/8	35%	0/5/17/20	Samplin by 2' Soil so Augering	ow Stem Auge rage by 13/8" I.D.  long split spoor ample reasy for full of boring	Brown me SAND GRAVEL, little SIL nonplastic) slight	T (wet,	إستاسيا	
15.0						·	· Table measure			استاستاسا	
)7.0'	-	5-4	13/8	75%	20/20/20/37			Brown of GRAL cmf SAND, little (wet, nonplastic) dense GW	SILT		
1.0											
20.0'		5- <sup>-</sup> 5	13/8	85%	13/2/32/35		augering	Brown cm. SAL SILT, little of a with some pure SILT loyers (sat nonplastic) fair	inorganic unated,		
					•	Bottom as instr	of hole at 200	sw.			